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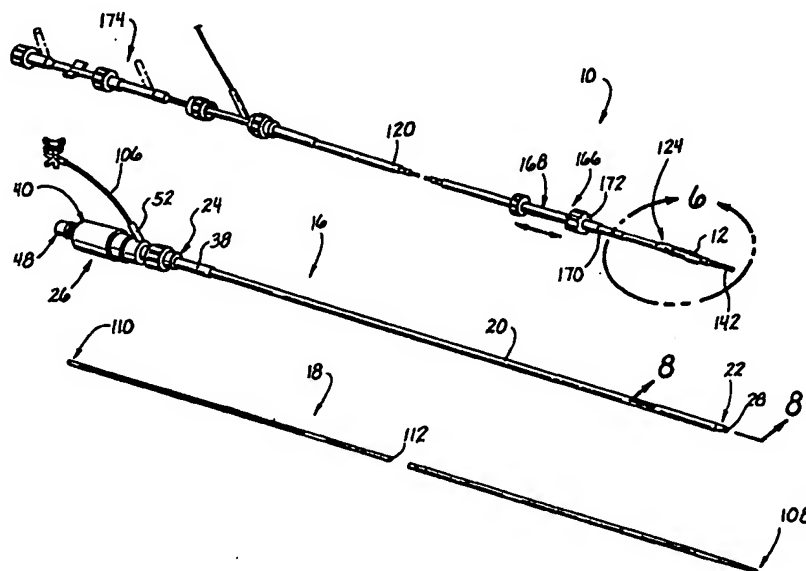
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(54) Title: ENDOVASCULAR DELIVERY SYSTEM



(57) Abstract

A system for delivering and implanting a radially expandable endoluminal prosthesis within a body lumen (e.g., blood vessel). The system comprises: a) an introducer/dilator assembly, and b) a delivery catheter/loader assembly. The introducer/dilator assembly comprises an elongate tubular introducer sheath which may be provided with a valving assembly mounted on the proximal end thereof. A dilator, which has regionalized differences in stiffness, is initially deployable within the lumen of the introducer to facilitate advancement of the introducer to its desired location within the body. The delivery catheter/loader assembly may be attached to the introducer, such that the delivery catheter having the prosthesis mounted thereon may be advanced through the introducer, to a desired location within the body. Thereafter, the radial expandable endoluminal prosthesis mounted on the delivery catheter is deployed and implanted by an expansion device (e.g., balloon) formed on the delivery catheter.

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INTERNATIONAL SEARCH REPORT

Internat. Application No

PCT/US 97/15172

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A61F2/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61F A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 12455 A (IMPRA, INC.) 2 May 1996	1,2, 10-13
X	see abstract; figures	
Y		16,17 25,27
A	EP 0 727 194 A (SCHNEIDER(EUROPE) AG) 21 August 1996 see the whole document	1
A	WO 96 19256 A (ADVANCED CARDIOVASCULAR SYSTEMS, INC.) 27 June 1996 see abstract; figures	1
A	WO 95 33422 A (MEADOX MEDICALS, INC.) 14 December 1995	
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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- *O* document referring to an oral disclosure, use, exhibition or other means
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- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

8 April 1998

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Internat. Application No

PCT/US 97/15172

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DE 40 00 222 A (SIEMENS AG) 19 July 1990 see abstract; figures ---	25,27
X	GB 1 417 013 A (CAMI) 10 December 1975 see page 2, line 106 - page 3, line 12; figures	28-31
X	EP 0 513 836 A (ACT MEDICAL, INC.) 19 November 1992 ---	28-30
Y	see the whole document ---	33
Y	EP 0 100 506 A (SHILEY INCORPORATED) 15 February 1984 see page 18, line 4 - line 33 -----	33

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 97/15172

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

MULTIPLE INVENTIONS

1. Claims: 1-15

A delivery catheter for implanting a tubular prosthesis within a body lumen of a mammal with means for tightening the balloon and a system comprising the delivery catheter and the prosthesis.

2. Claims: 16-24

A delivery catheter for implanting a tubular prosthesis within a body lumen of a mammal where the balloon has a substantially cylindrical side-wall and end walls which are no more than ten degrees from an axis which is perpendicular to the longitudinal axis of the catheter body.

3. Claims: 25-27

A system for implanting a radially expandable prosthesis within a body lumen of a mammal with means for checking for endoleaks after delivery and implantation of the prosthesis.

4. Claims: 28-33

A tubular cannula, insertable into a mammalian body.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internat. Application No

PCT/US 97/15172

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INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No

PCT/US 97/15172

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